Ursidae: The Undergraduate Research Journal at the University of Northern Colorado

Volume 2 | Number 1 Article 15

January 2012

Postural Stability and Flexibility in Young Adults

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Sport & Exercise Science
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The components of postural stability and flexibility are considered essential to overall physical fitness and well-being. Previous researchers have evaluated the relationship between these factors in the elderly and have drawn conclusions between balance ability and the risk of serious falls in this demographic. However, data concerning the younger population and implications of gender difference has been largely inconclusive. The purpose of this study is to assess the strength of the correlation between stability and flexibility in young adults as well as to evaluate how the anthropometrical differences between men and women dictate flexibility performance. It is a quantitative clinical study with a target of 40 young adults between 18 and 35 years in age. The force platform will be utilized to measure COP (center of pressure) and to detect any sway in the AP axis (anterior-posterior). Flexibility measures will be taken with a manual goniometer and a sit and reach box (SRB). The goniometer will quantify joint angles of the hip, knee, and ankle and the SRB will assess the lower back and hamstring flexibility of each participant. We expect that a strong correlation between stability and flexibility will be apparent in each subject, and that females will express a greater range of motion (ROM) than males. We hope to support the relevance of age in these factors and of gender in flexibility-.
Keywords: postural stability, static stability, dynamic stability, balance, flexibility, young adults, gender, force platform, goniometer, sit and reach test, anterior-posterior axis